I claim:

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- 1. A method of processing sonic wireline or logging while drilling data acquired in a borehole comprising:
 - a) filtering the sonic data to attenuate borehole-borne arrivals;
- b) migrating the filtered sonic data; and
 - c) beamforming the filtered and migrated sonic data the determine the position of a reflector with respect to the borehole.
- 2. The method of claim 1, wherein said filtering comprises adaptively filteringthe sonic data.
 - 3. The method of claim 1, wherein said filtering comprises applying a filter that attenuates noise in only two of four quadrants of fk-space.
- 4. The method of claim 3, wherein said sonic data is shifted before said filter is applied to place desired signal within said sonic data into a quadrant that is not affected by said filter.
- 5. The method of claim 1, wherein said migrating comprises generalized radon20 transform migrating the filtered sonic data.
 - 6. The method of claim 1, wherein said beam-forming comprises applying an adaptive beam-forming filter.

- 7. The method of claim 1, further comprising displaying the position of the sonic reflector with respect to the borehole.
- 8. The method of claim 1, further comprising determining an azimuth and
 5 distance to said reflector downhole and transmitting said azimuth and distance to the surface.
 - 9. The method of claim 8, further comprising using said azimuth and distance to geosteer drilling of said borehole.
- 10. A method of processing sonic data acquired in a borehole by a tool having a plurality of receivers positioned such that they are spatially separated when their positions are projected onto a plane perpendicular to the central axis of the borehole

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comprising:

- a) processing the sonic data to attenuate noise and to correct for a difference between an apparent position and a true position of a seismic reflector; and
 - b) determining a position of a sonic reflector with respect to the borehole by triangulating said processed sonic data obtained from different receivers of the borehole tool.
 - 11. The method of claim 10, further comprising displaying the position of the sonic reflector with respect to the borehole.

12. A method of filtering data obtained within a borehole and allowing for changes in source signature comprising:

determining a filter effectively minimizing prediction-error energy using a group of preceding samples on preceding traces and a group of following samples on following traces; and

applying said filter to said data to attenuate borehole-borne noise within said data.

13. The method of claim 12, wherein said filter is adaptive.

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- 14. The method of claim 12, wherein said data is shifted before said filter is applied to place desired signal within said data into a quadrant that is not affected by said filter.
- 15. The method of claim 12, wherein said filter has filter weights that are determined using an adaption process.
 - 16. The method of claim 15, where said adaption process comprises letting the filter weights slowly adapt in the direction of the steepest descent for the error energy.
 - 17. The method of claim 16, wherein letting the filter weights slowly adapt comprises limiting the amount of change to 1% per sample point each time the filter is run through the data.

18. The method of claim 12, wherein the prediction-error, $e_{m,n}$, for trace m, sample n associated with said filter can be characterized as:

$$e_{m,n} = d_{m,n} - \sum_{j=m-1}^{m-J} \sum_{k=L}^{M} w_{j,k} d_{j,n-k} - \sum_{j=m+1}^{m+J} \sum_{k=L}^{M} w_{j,k} d_{j,n+k} .$$